No. 8500126

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

DeKalb–Pfizer Genetics

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen** YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

CORN

'78010'

AMENDED CERTIFICATE

*Original grant April 30, 1986.

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D. C. this 31st day of May in the year of our Lord one thousand nine hundred and ninety.

Attest:

Kenneth H. Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Clayton Yeutter
Secretary of Agriculture

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: *See Reverse.*

FORM APPROVED
OMB NO. 40-R3822

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1a. TEMPORARY DESIGNATION OF VARIETY	1b. VARIETY NAME	FOR OFFICIAL USE ONLY
78010	78010	PV NUMBER 8500126
2. KIND NAME: Corn	3. GENUS AND SPECIES NAME: Zea Mays	FILING DATE: 4/26/85 — TIME: 3:30 P.M. (XXXX A.M.)
4. FAMILY NAME (BOTANICAL): Gramineae	5. DATE OF DETERMINATION: Winter 1980	FEE RECEIVED: $ 1,800 / $ 200 — DATE: 4/26/85 / 3/24/86
6. NAME OF APPLICANT(S): DeKalb-Pfizer Genetics	7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code): 3100 Sycamore Road, DeKalb, IL 60115	8. TELEPHONE AREA CODE AND NUMBER: 815/756-3671

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.)	10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION	11. DATE OF INCORPORATION
General Partnership		

12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS: Waddell A. Biggart, Esq., Sughrue, Mion, Zinn, Macpeak & Seas, 1776 K St., N.W. D.C. 20006; Eric Christophersen, Esq., 3100 Sycamore Road, DeKalb, Illinois 60115; *Dr. James H. Monroe, Legal Division, Pfizer Inc., 235 E. 42nd St., N.Y., N.Y. 10017 (212) 573-2369

13. **CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:**

- [X] 13A. Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*
- [X] 13B. Exhibit B, Novelty Statement.
- [X] 13C. Exhibit C, Objective Description of the Variety *(Request form from Plant Variety Protection Office.)*
- [X] 13D. Exhibit D, Additional Description of the Variety.

14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See Section 83(a). (If "Yes," answer 14B and 14C below.)* [ ] YES [X] NO

14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?	14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED?
[ ] YES [X] NO	[ ] FOUNDATION [ ] REGISTERED [ ] CERTIFIED

15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? [ ] YES [X] NO *(If "Yes," give name of countries and dates.)*

15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? [ ] YES [X] NO *(If "Yes," give name of countries and dates.)*

~~16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? [ ] YES [ ] NO~~

17. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

4/19/85
(DATE)

(SIGNATURE OF APPLICANT)
Vice President
DEKALB-PFIZER GENETICS

(DATE)

(SIGNATURE OF APPLICANT)

FORM GR-470 (1-78)

NOTE: *Please address all correspondence to Dr. James Monroe, N.Y., N.Y.

Exhibit A. Origin and Breeding History of Dent Corn Inbred 78010

Summer 1977: The cross B73 (Iowa Stiff Stalk Synthetic) x A634 (Mt42 x B14 BC3) was made at Dayton, Iowa. S0 generation seed from the harvested ears was bulked. (1977 Nursery cross number 1670 x NC69, B73 was row 1670 and A634 was row NC69).

Winter 1977: Seed of the S0 generation cross was sent to Homestead, Florida, for self pollination. All harvested ears were returned to Dayton, Iowa, shelled and the S1 generation seed bulked. (1977 Winter nursery row number 1897).

Summer 1978: The S1 generation seed was planted at Dayton, Iowa, in a single row and the plants were self pollinated. Three self pollinated ears (S2 generation seed) were harvested, shelled separately, and the S2 seed maintained separately. (1978 Nursery row number 4767).

Winter 1978: S2 generation seed of ear number one (of three harvested) was planted at Homestead, Florida, in a five row block and the plants self pollinated. Five self pollinated ears were harvested and returned to Dayton, Iowa. Seed of each ear was shelled separately and the S3 generation seed maintained separately. (1978 Winter nursery rows 962-966).

Summer 1979: S3 generation seed of ear number three (of the five harvested) was planted at Dayton, Iowa, in a two row block and the plants self pollinated. Four self pollinated ears were harvested, shelled separately, and the S4 generation seed maintained separately. (1979 Nursery rows 4089-4090).

Winter 1979: S4 generation seed of ear number four (of the four harvested) was planted at Homestead, Florida, in a single row and the plants self pollinated. One self pollinated ear was harvested and returned to Dayton, Iowa, and the S5 generation seed shelled and maintained. (1979 Winter nursery row 92).

Summer 1980: S5 generation seed from the single ear was planted at Dayton, Iowa, in a single row and the plants self pollinated. No ears were harvested.

Winter 1980: S5 generation seed was planted in Hawaii in a single row and the plants self pollinated. Nine ears were harvested, returned to Dayton, Iowa, shelled and the seed bulked. (Hawaii Winter nursery row 1785). The seed was coded 78010. The selfing pedigree at the S5 generation was S5-1-3-4-1.

Summer 1981
to Present: A pure source of 78010 has been maintained by self pollinating and bulking seed from selected ears from each generation.

The initial cross of B73 x A634 and the selection in each of the segregating generations up to and including the coding of 78010 was made by Dr. M.F. Lindsey.

Appendium to DPG 8503C, Corn Inbred 78010, PC 6939

Statement of Uniformity

This inbred was assigned the code 78010 after 6 generations of selfing and was judged uniform for breeding use. 78010 has been reproduced and judged uniform for breeding use in winter and summer programs for an additional 5 generations.

Statements of Varients

Ears that are non-rounded at the tip (referred to as fasciation) occur with 2% frequency. The influence of environment can alter both the frequency and degree of expression of this characteristic varient of 78010.

Marvin Lindsey

Marvin Lindsey
Sr. Principal Corn Breeder & Area Director

8500126

03310/3/002
DEKALB - PFIZER GENETICS

Applicant

78010, Exhibit A, Appendium I.

1025 OAK ST
DEKALB IL 60115

TEST Date DECEMBER 01, 1983

Test No. 407165 78010 Lot No. 21N090,TR.

Kind & Variety (Producers Declaration)
FOUNDATION FR341 CORN F5

THIS SAMPLE MEETS CERTIFICATION REQUIREMENTS BASED ON SOURCE OF SEED, FIELD INSPECTION AND LABORATORY ANALYSIS

GERMINATION REPORT: 400 Seeds

Germination	%	Strong	%	Cold Test	%
Hard Seed	%	Pod & Stem Blight	%	A-A Test	%
Dead Seed	%	Other Diseases	%	Tetrazolium	%

PURITY REPORT:

Pure Seed		99.83	%
Weed Seeds		.00	%
Other Crop Seeds		.00	%
Total Inert Matter		.17	%
Broken Seed	.16		%
Other Inert	.01		%

Test Weight 59.00 LBS.

Moisture 10.20 %

Total Weight of Sample Examined: 500.00

Dockage from 1,000 grams:

Noxious Weeds	Other Weed Seeds
NONE FOUND	NONE FOUND
Other Crop Seeds	**Inert Matter**
NONE FOUND	BROKEN SEED CHAFF

EMARKS:

This certifies that the sample of seed submitted of the lot designated above has been analyzed in accordance with the RULES FOR SEED TESTING AS ADOPTED BY THE ASSOCIATION OF OFFICIAL SEED ANALYSTS. VIGOR TESTING INFORMATION CANNOT BE USED FOR LABELING PURPOSES.

ILLINOIS CROP IMPROVEMENT ASSOCIATION, INC.
508 South Broadway, Urbana, Illinois 61801
Telephone: 217-367-4053

Registered Seed Technologist

James R. Sherl
Manager

M 3-0881

DECEMBER 01, 1983

RECD FEB 14 1985

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8500126

03310/4/002
DEKALB - PFIZER GENETICS

Applicant

78010, Exhibit A, Appendium I

1025 OAK ST
DEKALB IL 60115

TEST Date FEBRUARY 07, 1985

Test No. 412740 78010 Lot No. 27N049,TR.

Kind & Variety (Producers Declaration)

FOUNDATION EF341 CORN F5

THIS SAMPLE MEETS CERTIFICATION REQUIREMENTS BASED ON SOURCE OF SEED, FIELD INSPECTION AND LABORATORY ANALYSIS

GERMINATION REPORT:

Germination	%			Cold Test	%
Hard Seed	%	Pod & Stem Blight	%	A-A Test	%
Dead Seed	%	Other Diseases	%	Tetrazolium	%

PURITY REPORT:

Pure Seed		99.85	%	Test Weight	58.80 LBS.
Weed Seeds		.00	%		
Other Crop Seeds		.00	%	Moisture	11.10%
Total Inert Matter		.15	%		
Broken Seed	.14		%	Total Weight of Sample Examined:	500.00
Other Inert	.01		%		

Dockage from 1,000 grams:

Noxious Weeds	Other Weed Seeds
NONE FOUND	NONE FOUND
Other Crop Seeds	**Inert Matter**
NONE FOUND	BROKEN SEED CHAFF

REMARKS:

This certifies that the sample of seed submitted of the lot designated above has been analyzed in accordance with the RULES FOR SEED TESTING AS ADOPTED BY THE ASSOCIATION OF OFFICIAL SEED ANALYSTS. VIGOR TESTING INFORMATION CANNOT BE USED FOR LABELING PURPOSES.

ILLINOIS CROP IMPROVEMENT ASSOCIATION, INC.
508 South Broadway, Urbana, Illinois 61801
Telephone: 217-367-4053

Registered Seed Technologist

James R. Sherl
Manager

IRM 3-1084

RECD FEB 14 1985

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FEBRUARY 07, 1985

8500126

78010

Exhibit B. Novelty Statement

78010 is a yellow dent corn inbred line derived from a single cross (B73 x A634). The public line that is most similar to 78010 is A634Ht. 78010 is statistically different from A634Ht in plant height (140 vs 159), leaf angle from stalk (23.7° vs 44.3°), anther color (purple vs ~~green-yellow~~ pink) ~~and silk color (green-yellow vs purple)~~. (See Exhibit B, Appendium I). Additional distinguishing differences are: ear diameter of 78010 (42 vs 38) and the weight per 100 seeds (34.1 vs 29.3). (See Exhibit B, Appendium II).

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78010

Exhibit B. Novelty Statement.

Appendium I.

78010 vs. A634Ht

Plant and Ear Characteristics	78010	A634Ht	Testing Hypothesis $H_o: \mu_1 = \mu_2$ $H_A: \mu_1 \neq \mu_2$
1. Plant height (cm)	140	159	Sig. (α = 0.1)
2. Leaf angle from stalk (°)	23.7°	44.3°	Sig. (α = 0.1)
3. Anther color	purple	~~green-yellow~~ pink	
4. Ear diameter (mm)	42	38	Sig. (α = 0.1)
5. Silk color.	~~green-yellow~~ pink	~~purple~~ pink	
6. Kernel weight per 100 seeds (gm)	34.1	29.3	Sig. (α = 0.1)

JMS 4/10/90

1) $n_1 \neq n_2$

2) Detailed calculations are available.

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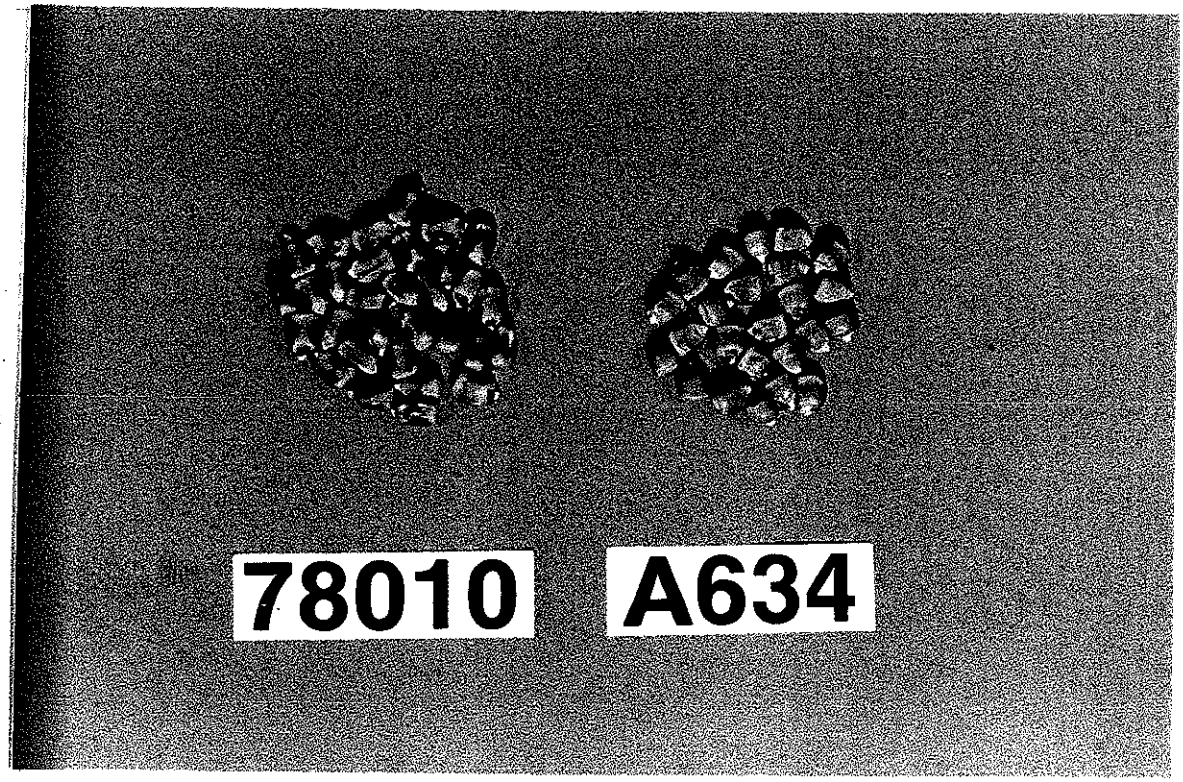
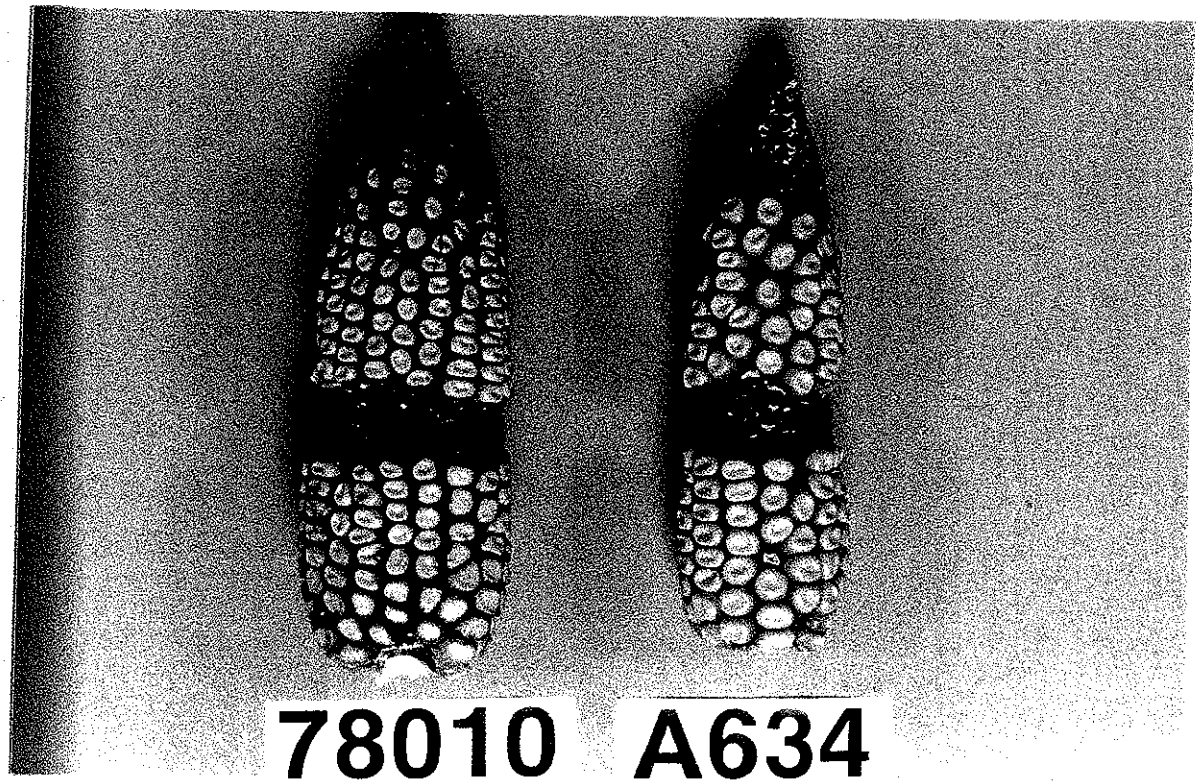
13B. Exhibit B. Novelty Statement, Appendium II.





78010 and A634 have a dent kernel. The cob color of both 78010 and A634 are red. 78010 has a tendency of slight purple pigmentation on kernel.

78010

FORM APPROVED. OMB NO. 40-R3712

FORM GR-470-28
(2-15-74)

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782

EXHIBIT C
(Corn)

OBJECTIVE DESCRIPTION OF VARIETY
CORN *(ZEA MAYS)*

NAME OF APPLICANT(S)

ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*

FOR OFFICIAL USE ONLY

PVPO NUMBER 8500126

VARIETY NAME OR TEMPORARY DESIGNATION < 780107 '78010' JMS

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. [0][8][9] or [0][9]) when number is either 99 or less or 9 or less.

1. TYPE:

[2] 1 = SWEET 2 = DENT 3 = FLINT 4 = FLOUR 5 = POP 6 = ORNAMENTAL

2. REGION WHERE BEST ADAPTED IN THE U.S.A.:

[2] 1 = NORTHWEST 2 = NORTHCENTRAL 3 = NORTHEAST 4 = SOUTHEAST
5 = SOUTHCENTRAL 6 = SOUTHWEST 7 = MOST REGIONS

3. MATURITY (In Region of Best Adaptability):

(Under "omments" (pg. 3) state how heat units were calculated)

[8][1] DAYS FROM EMERGENCE TO 50% OF PLANTS IN SILK — [1][3][9][2] HEAT UNITS

[ ][ ] DAYS FROM 50% SILK TO OPTIMUM EDIBLE QUALITY — [ ][ ][ ][ ] HEAT UNITS

[7][4] DAYS FROM 50% SILK TO HARVEST AT 25% KERNEL MOISTURE — [1][3][3][9] HEAT UNITS

4. PLANT:

[1][4][0] CM. HEIGHT ~~TO tassel tip~~ (to flag leaf) [0][8][0] CM. EAR HEIGHT (To base of top ear)

[ ][ ] CM. LENGTH OF TOP EAR INTERNODE

Number of Tillers:

[1] 1 = NONE 2 = 1–2 3 = 2–3 4 = > 3

Number of Ears Per Stalk:

[2] 1 = SINGLE 2 = SLIGHT TWO-EAR TENDENCY
3 = STRONG TWO-EAR TENDENCY 4 = THREE-EAR TENDENCY

Cytoplasm Type:

[1] 1 = NORMAL 2 = "T" 3 = "S" 4 = "C" 5 = OTHER (Specify) _____

5. LEAF (Field Corn Inbred Examples Given):

Color:

[2] 1 = LIGHT GREEN (HY) 2 = MEDIUM GREEN (WF9) 3 = DARK GREEN (B14) 4 = VERY DARK GREEN (K166)

Angle from Stalk (Upper half):

[1] 1 = < 30° 2 = 30–60° 3 = > 60°

Sheath Pubscence:

[2] 1 = LIGHT (W22) 2 = MEDIUM (WF9)
3 = HEAVY (OH26)

Marginal Waves:

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[2] 1 = NONE (HY) 2 = FEW (WF9) 3 = MANY (OH7L)

Longitudinal Creases:

[2] 1 = ABSENT (OH51) 2 = FEW (OH56A)
3 = MANY (PA11)

Width:

[0][9] CM. WIDEST POINT OF EAR NODE LEAF

Length:

[ ][ ][ ] CM. EAR NODE LEAF

[2][0] NUMBER OF LEAVES PER MATURE PLANT

10

6. TASSEL:

[0 6] NUMBER OF LATERAL BRANCHES

Branch Angle from Central Spike:

[1] 1 = < 30° 2 = 30–40° 3 = > 45°

Peduncle Length:

[ ] CM. FROM TOP LEAF TO BASAL BRANCHES

Pollen Shed:

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[1 2] 1 = LIGHT (WF9) 2 = MEDIUM 3 = HEAVY(KY21)

[4] Anther Color: } 1 = YELLOW 2 = PINK 3 = RED 4 = PURPLE 5 = GREEN

[5] Glume Color: } 6 = OTHER (Specify) _____

Pollen Restoration for Cytoplasms (o = Not Tested, 1 = Partial, 2 = Good)

[ ] "T" [ ] "S" [ ] "C" [X] OTHER (Specify Cytoplasm and degrees of restoration) Not tested.

7. EAR (Husked Ear Data Except When Stated Otherwise):

[1 6] CM LENGTH [4 2] MM. MID-POINT DIAMETER [1 1 9] GM. WEIGHT

Kernel Rows:

[2] 1 = INDISTINCT 2 = DISTINCT [1 6] NUMBER

[2] 1 = STRAIGHT 2 = SLIGHTLY CURVED 3 = SPIRAL

Silk Color (Exposed at Silking Stage):

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[5 2] 1 = GREEN 2 = PINK 3 = SALMON 4 = RED 5 = Green-yellow

Husk Color:

[1] FRESH } 1 = LIGHT GREEN 2 = DARK GREEN 3 = PINK

[6] DRY } 4 = RED 5 = PURPLE 6 = BUFF

Husk Extention: (Harvest Stage)

[2] 1 = SHORT (Ears Exposed) 2 = MEDIUM (Barely Covering Ear) 3 = LONG (8–10CM Beyond Ear Tip) 4 = VERY LONG (> 10 CM)

Husk Leaf:

[1] 1 = SHORT (< 8 CM) 2 = MEDIUM (8–15 CM) 3 = LONG (> 15 CM)

Shank:

[0 9] CM LONG [5] NO. OF INTERNODES

Position at Dry Husk Stage:

[3] 1 = UPRIGHT 2 = HORIZONTAL 3 = PENDENT

Taper:

[2] 1 = SLIGHT 2 = AVERAGE 3 = EXTREME

Drying Time (Unhusked Ear):

[ ] 1 = SLOW 2 = AVERAGE 3 = FAST

8. KERNEL (Dried):

Size (From Ear Mid-Point):

[1 0] MM LONG [0 8] MM. WIDE [0 5] MM. THICK

Shape Grade (% Rounds)

[4] 1 = < 20 2 = 20–40 3 = 40–60 4 = 60–80 5 = > 80

8. KERNEL (Dried) :

[1] **Pericarp Color:** 1 = COLORLESS 2 = RED-WHITE 3 = TAN 4 = BRONZE 5 = BROWN 6 = LIGHT RED 7 = CHERRY RED 8 = VARIEGATED (Describe) _____

[1] **Aleurone Color:** 1 = HOMOZYGOUS 2 = SEGREGATING (Describe) _____

[1] 1 = WHITE 2 = PINK 3 = TAN 4 = BROWN 5 = BRONZE 6 = RED 7 = PURPLE 8 = PALE PURPLE 9 = VARIEGATED (Describe) _____

[3] & [5] **Endosperm Color:** 1 = WHITE 2 = PALE YELLOW 3 = YELLOW 4 = PINK-ORANGE 5 = WHITE CAP.

Endosperm Type:

[3] 1 = SWEET (su1) 2 = EXTRA SWEET (sh2) 3 = NORMAL STARCH 4 = HIGH AMYLOSE STARCH 5 = WAXY STARCH 6 = HIGH PROTEIN 7 = HIGH LYSINE 8 = OTHER (Specify) _____

[3][4] GM. WEIGHT /100 SEEDS (Unsized Sample)

9. COB:

[2][6] MM. DIAMETER AT MID-POINT

Strength:

[2] 1 = WEAK 2 = STRONG

Color:

[3] 1 = WHITE 2 = PINK 3 = RED 4 = BROWN 5 = VARIEGATED 6 OTHER (Specify) _____

10. DISEASE RESISTANCE (0 = Not Tested, 1 = Susceptible, 2 = Resistant):

[0]	STALK ROT (Diplodia)	[0]	STALK ROT (Fusarium)	[0]	STALK ROT (Gibberella)
[1]	NORTHERN LEAF BLIGHT	[2]	SOUTHERN LEAF BLIGHT	[0]	SMUT
[0]	SOUTHERN RUST	[0]	CORN SMUT	[0]	BACTERIAL WILT
[0]	BACTERIAL LEAF BLIGHT	[0]	MAIZE DWARF MOSAIC	[0]	STUNT
[ ]	OTHER (Specify) Anthracnose (foliar phase)-2; Eyespot-2				

11. INSECT RESISTANCT (0 = Not Tested, 1 = Susceptible, 2 = Resistant):

[1]	CORNBORER	[0]	EARWORM	[0]	SAPBEETLE	[0]	APHID
[0]	ROOTWORM (Northern)	[0]	ROOTWORM (Western)				
[0]	ROOTWORM (Southern)	[0]	OTHER (Specify) _____				

12. VARIETIES MOST CLOSELY RESEMBLING THAT SUBMITTED FOR THE CHARACTERS GIVEN:

CHARACTER	VARIETY	CHARACTER	VARIETY
Maturity	A634Ht	Kernel Type	
Plant Type	A634Ht	Quality (Edible)	
Ear Type	B73	Usage	

REFERENCES:

U.S. Department Agriculture. Yearbook 1937.

Corn: Culture, Processing, Products. 1970 Avi Publishing Company, Westport, Connecticut. (Numerous (Authors)

Emerson, R.A., G.W. Beadle, and A.C. Fraser. A Summary of Linkage Studies in Maize.Cornell A.E.S., Mem. 180. 1935.

The Mutants of Maize. 1968. Crop Science Society of America. Madison, Wisconsin.

Stringfield, G.H. Maize Inbred Lines of Ohio. Ohio A.E.S. Bul. 831. 1959.

Butler, D.R. 1954 — A System for the Classification of Corn Inbred Lines — PhD. Thesis, Ohio State University.

COMMENTS: Heat Unit Calculations:

$$GDD = \frac{\text{Daily max. temp.}(\leq 86°F) + \text{Daily min. temp.}(\geq 50°F)}{2} - 50°F$$

Exhibit D. Additional Description of the Variety.

The isozyme analysis of 78010 and A634Ht shows genetic differences at 4 different loci: Acph - 2 vs. 4, IDH B - 4 vs. 6, MDH B - 3.5 vs. 6, and PHI - 4 vs. 5.
(See Exhibit D, Appendium I).

Exhibit D.

Additional Description of the Variety.

Appendium I.

Isozyme Genotypes of Selected DEKALB Parents

LOCUS	Alleles Present		
	78010	B73Ht	A634Ht
# of plants assayed	6	6	6
ACPH	2	2	4
ADH	4	4	4
Cat	9	9	9
EP	6	6	6
GOT U	4	4	4
GOT M	4	4	4
GOT L	4	4	4
B-Glu	7	7	7
IDH A	4	4	4
IDH B	4	4	6
MDH A	6*	6*	6*
MDH B	3.5	3.5	6
MDH C	16	16	16
MDH D	12	12	12
MDH E	12	12	12
PGM A	9	9	9
PGM B	4	4	4
PHI	4	4	5

* Allele is probably 6 but null cannot be ruled out.

The technique of using isozymes for genotyping or "fingerprinting" is described by the following reference:

Goodman, M. M. and C. W. Stuber. 1980
Genetic identification of lines and crosses using isoenzyme electrophoresis. Proceedings of the Thirty-fifth Annual Corn and Sorghum Industry Research Conference.

8500126

April 26, 1985

EXHIBIT E

Plant Variety Protection Office
United States Department of
Agriculture
AMS-USDA
Room 500 -- National Agricultural
Library Building
Beltsville, Maryland 20705

Re: Plant Variety Protection Certificate Application
Hybrid Inbred Corn Line 78010 -- DPG 8503C-DPC 6939

Dear Sirs:

Dr. Marvin F. Lindsey, breeder of corn line 78010, was from 1970 through July 14, 1982, a full-time employee of Pfizer Genetics, Inc. DeKalb Pfizer Genetics, a general partnership between DeKalb AgResearch, Inc. and Pfizer Genetics, Inc., succeeded on July 15, 1982, to substantially all of the assets of Pfizer Genetics, Inc., including all of the rights to 78010. From July 15, 1982, to the present, Dr. Lindsey has been a full-time employee of DeKalb Pfizer Genetics.

Very truly yours,

James H. Monroe/ustg
James H. Monroe

JHM:aa